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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,680	10/17/2006	Yuki Takii	TIP-06-1314	2791
35811 7590 04/23/2012 IP GROUP OF DLA PIPER LLP (US) ONE LIBERTY PLACE 1650 MARKET ST, SUITE 4900 PHILADELPHIA, PA 19103			EXAMINER KILPATRICK, BRYAN T	
			ART UNIT 1772	PAPER NUMBER
			NOTIFICATION DATE 04/23/2012	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

pto.phil@dlapiper.com

Office Action Summary

Application No.

10/593,680

Applicant(s)

TAKII ET AL.

Examiner

BRYAN KILPATRICK

Art Unit

1772

Period for Reply -- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2012.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 1-17 is/are pending in the application.
- 5a) Of the above claim(s) 2,3,7 and 8 is/are withdrawn from consideration.
- 6) ☒ Claim(s) 5,6 and 11 is/are allowed.
- 7) ☒ Claim(s) 1,4,9,10 and 12-17 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 20 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-886)
Paper No(s)/Mail Date ____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: ____

DETAILED ACTION

Response to Amendment

1. The amendments and arguments/remarks filed on 22 February 2012 have been entered and fully considered.
2. Instant claims 1 and 6 have been amended, instant claims 7-8 have been cancelled, and instant claims 16-17 are newly added – all have been done by Applicant's current amendment.
3. Previous request for continued examination were filed and entered on 03 March 2011 and on 24 October 2011.
4. Instant claims 1, 4-6, and 9-17 are pending currently.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4, 9-10, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2003/0134316 A1 (Tashiro et al.).

In regards to instant claims 1, 4, 9-10, and 12-17 - Tashiro et al. discloses a method of stirring a reaction solution in a micro-reaction vessel by imparting a magnetic field fluctuation from the exterior of said reaction vessel to magnetic beads contained in said reaction solution (Abstract and Fig. 1-2). The method of Tashiro et al. further

discloses employing at least one of two plates with DNA immobilized on the surface, a reaction solution for hybridization that has target DNA, and sealing of magnetic beads within the reaction vessel prior to mixing via a magnetic field (paragraph [0020]-[0021] and Fig. 1-2). Tashiro et al. disclose that the magnetic beads have uniformed and/or non-uniformed diameters of about 0.001 to 0.1 mm (paragraph [0021]), and that the beads are rotated and stirred using multiple electromagnets (paragraph [0027]). Tashiro et al. discloses that the magnetic beads employed are treated with a resin to prevent them from contacting and/or reacting with components in the reaction solution (paragraph [0022]). Tashiro et al. discloses the use of probes/dots stamped on a slide glass with a diameter of about 100 to 150 micrometer (paragraph [0035]) and that the probes/dots comprise DNA for hybridization (paragraph [0002]); furthermore, it is well known that circular drops of liquids develop flat surfaces on their underside when they are placed onto a flat surface via their underside. Tashiro et al. discloses that stirring with the beads is done in the upper part of the reaction vessel (paragraph [0038] and Fig. 2).

Tashiro et al. does not explicitly state that the carrier and/or a container have a structure that prevent fine particles or air bubbles from coming into contact with a selective binding substance-immobilized surface carrier. However, it is evident that the reaction vessel employed by Tashiro et al. has upper and lower structures (Fig. 1-2). Magnetic beads and electromagnets are employed for mixing and are maintained in the upper part of their reaction vessel, and probes/dots comprising DNA (paragraph [0002]) stamped on a slide glass are employed in the lower part of the same reaction vessel

(Fig. 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ the design of the reaction vessel of Tashiro et al. to prevent the beads of the upper area of the reaction vessel from contacting the stamped probes of the lower surface in the same reaction vessel – similar to fine particles being prevented from contacting a selective binding substance-immobilized surface carrier as stated by the instant claims.

Allowable Subject Matter

Claims 5-6 and 11 are allowed.

The following is an examiner's statement of reasons for allowance: instant claims 5-6 and 11 recite a physical structure within the method wherein the size of particles is dictated by the distance between a container and substance supporting/binding surface.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments/remarks with respect to instant claims 1 and 16-17 have been considered but are moot because of newly made grounds of rejection.

Regarding Applicant's statement on p. 4-5 of the currently filed remarks that it is unclear how stamped probes or dots can encompass convex/concave structure while

also developing a flat surface, to better clarify, it is **well known** that circular drops of liquids develop flat surfaces on their underside **when** they are placed onto a flat surface via their underside – much like how a drop of rain has a flat bottom **when** resting on a surface, but still has a circular top.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed **within TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **BRYAN KILPATRICK** whose telephone number is (571)270-5553. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, In Suk Bullock can be reached on (571)272-5954. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B. K./
Examiner, Art Unit 1772

/SAM P SIEFKE/
Primary Examiner, Art Unit 1772